



# State Revolving Fund Loan Programs

## Drinking Water, Wastewater, Nonpoint Source

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### ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

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#### CITY OF COLUMBUS

**Phase 1B (in part): Noblitt Park Sewer Project and East Side Sewer Project**  
**STATE REVOLVING FUND PROJECT # CS182 399 03**

**DATE: March 6, 2008**

**DEADLINE FOR SUBMITTAL OF COMMENTS: April 7, 2008**

#### I. INTRODUCTION

The above entity has applied to the State Revolving Fund Loan Program (SRF) for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

#### II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

#### III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

**Max Henschen**  
**Senior Environmental Manager**  
**State Revolving Fund – IGCN 1275**  
**100 N. Senate Ave.**  
**Indianapolis, IN 46204**  
**317-232-8623**

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# ENVIRONMENTAL ASSESSMENT

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## I. PROJECT IDENTIFICATION

Project Name and Address:	<b>Noblitt Park Sewer and East Side Sewer</b> City of Columbus 1111 McClure Road, P. O. Box 1987 Columbus, IN 46202-1987
SRF Project Number:	CS182 399 03
Authorized Representative:	Keith L. Reeves, Director Columbus City Utilities

## II. PROJECT LOCATION

The Columbus City Sewer Utility is located in Bartholomew County and serves the majority of Columbus. The city also treats wastewater flows from Driftwood Utilities and the Eastern Bartholomew Regional Sewer District. Figure 1 illustrates the current service area, as well as the future service area, which includes areas of potential annexation and growth by the regional sewer district and sewer utility currently served by the Columbus Wastewater Treatment Plant (WWTP). In general, the 20-year study area is bounded by County Roads 400 W and 700 W on the west, County Road 700 N on the North, County Roads 500 E and 800 E on the east, Clifty Creek on the southeast and County Roads 650 S, 700 S and 800 S on the south.

Noblitt Park is located on the southwest side of the city. The East Side Sewer will be installed on the southeast and east sides of the city. See figures 2 and 3.

## III. PROJECT NEED AND PURPOSE

The sanitary sewer system was constructed starting in the 1890s and consists of 8- to 54-inch diameter sewer lines, 3,500 manholes, and 70 lift stations.

The older downtown portion of the sewer system consists of combined sewer lines which collect both storm water and sanitary sewer flow. The combined sewer area contains three permitted combined sewer overflow (CSO) structures named Noblitt Park (CSO 009), Boat Dock (CSO 002) and Maple Grove (CSO 003). The Noblitt Park CSO discharges into the Flatrock River on the west side of the city, while the other CSOs discharge to the East Fork White River on the south side of the city near the city's WWTP.

The Indiana Department of Environmental Management (IDEM) required Columbus to prepare a CSO Long Term Control Plan (LTCP) which examined alternatives to reduce/eliminate water quality impacts from the three CSOs. The study determined that during a typical rain event, the Boat Dock CSO and the Maple Grove CSO discharge approximately 80 percent of the overflow

volume from the combined sewer system, while the Noblitt Park CSO discharges the remaining volume. Improvements identified in the Columbus CSO LTCP have been incorporated into the city's National Pollutant Discharge Elimination System (NPDES) permit.

In addition to the CSOs, the city is faced with other problems in the collection system. The city has been experiencing significant housing growth on the east side. In this area, the collection system experiences backups near the Four Seasons Retirement facility, especially during wet weather and high flow periods. The backups are caused by bottlenecks in the system. There is a great need to re-route flows from the east side in order to eliminate these problems and to provide capacity for projected area growth.

The city completed master planning documents in 1996 and 2005 to address the issues related to sewer system overloading and long-term planning to accommodate projected service area growth.

#### **IV. PROJECT DESCRIPTION**

Columbus has designated the wastewater projects as Phase 1A, Phase 1B and Phase 2. Phase 1A includes the new Water Street Sewer, the new Headworks Screening and Pumping Facility at Haw Creek, and the Mariah Basin Improvements. These projects, which were described in an Environmental Assessment distributed on September 25, 2006, are under construction. When Phase 1A is complete, the Boat Dock CSO will be capped. The Maple Grove CSO will remain connected to the WWTP when Phase 1A is complete, but would be used only if all power, including backup power, were to be lost at the WWTP; for all practical purposes, the Maple Grove CSO will be eliminated at the completion of Phase 1A.

Phase 1B, which the city plans to implement next, includes the Noblitt Park Sewer and the East Side Sewer, as well as a new South Side Pump Station and two associated force mains. The South Side Pump Station and Force Mains portion of Phase 1B, as well as a new WWTP south of the city (Phase 2), will be discussed in separate environmental assessments in the future.

**Noblitt Park Sewer:** The proposed Noblitt Park Sewer will redirect combined sewage from the Noblitt Park CSO to the existing WWTP. This project will install 7,220 feet of 66-inch reinforced concrete pipe (RCP) gravity sewer, 27 large manholes, 5 standard manholes and approximately 1,160 feet of miscellaneous 8-inch to 36-inch RCP connection lines. The proposed 66-inch RCP gravity sewer will connect to the existing interceptor near the intersection of Jackson Street and 15<sup>th</sup> Street, continue south down Lawton Avenue across the Louisville & Indiana Railroad, through Mill Race Park, cross the Louisville & Indiana Railroad again, then under State Road 46 and Second Street, ending at the Water Street Sewer (now under construction) near the northwest corner of the existing WWTP.

**East Side Sewer:** The East Side Sewer will reroute flows from east side areas to eliminate backups and bottlenecks in the sewer system and to allow for projected growth. This sewer will start near the McCullough Run subdivision and will follow Clifty Creek, ending at the Clifty Creek Lift Station in the vicinity of the Steinhurst Manor Apartments. A 20-inch force main will convey the sewage to a location on Cherry Street for discharge into an existing 30-inch sewer. This project includes approximately 411 feet of 8-inch polyvinyl chloride (PVC) sewer, 511 feet of 15-inch PVC sewer, 2,863 feet of 18-inch PVC sewer, 7,257 feet of 21-inch PVC sewer, 4,717 feet of 24-inch PVC sewer, 33 manholes, and a new submersible lift station (with three pumps, each rated at 2,500 gallons per minute [gpm]) and 5,150 feet of 20-inch force main. The project also includes improvements to one lift station and installation of 1,180 feet of 4-inch force main, as

well as abandonment of a lift station; flows will enter the lift station by gravity flow and exit by gravity flow to the proposed new sewer.

## V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

### A. Selected Plan Estimated Cost Summary

<b>Construction</b>		
Noblitt Park Sewer		\$4,933,150
East Side Sewer		<u>3,290,000</u>
	subtotal	8,223,150
	contingencies (10%)	<u>822,315</u>
<b>Construction Estimated Costs</b>		<b>\$9,045,465</b>

<b>Non-Construction</b>		
Legal and Administrative		\$ 51,300
Engineering Fees		
Design		504,360
Construction		111,840
Other		664,200
Construction Observation		<u>263,100</u>
<b>Non-Construction Estimated Costs</b>		<b><u>\$1,594,800</u></b>

**TOTAL ESTIMATED PROJECT COST    \$10,640,265**

- B. Columbus seeks an estimated \$10,640,265 from the SRF Program for a 20-year term at an interest rate to be determined at loan closing. The monthly rates and charges may need to be analyzed to determine if any adjustments are required to repay the SRF loan.

## VI. DESCRIPTION OF EVALUATED ALTERNATIVES

### Noblitt Park Sewer

No-Action Alternative: The purpose of the Noblitt Park Sewer project is to eliminate the combined sewer discharges to the Flatrock River from the Noblitt Park overflow structure. The proposed project is part of the city's approved CSO LTCP; the CSO LTCP's implementation has been incorporated into Columbus' NPDES permit. Therefore, the no-action alternative was rejected.

Transportation of Combined Sewer Flows to the Mariah Storage Basins for treatment at the WWTP: The CSO LTCP proposed to construct a lift station and 48-inch force main through Mill Race Park to transport the projected 75 million gallon per day (mgd) combined flow from Noblitt Park to the new Headworks for storage in the Mariah Storage Basins. Another alternative considered constructing a gravity sewer from Noblitt Park to the new Headworks, which would convey both the excess combined flow from the Noblitt CSO and flow from the downtown combined sewer area. This option also would eliminate the lift station and standby power requirements. The evaluation of alternatives indicated that the

gravity sewer option is the cost-effective alternative. The gravity sewer alternative is, therefore, the selected alternative.

The city is currently completing a portion of the gravity sewer alternative (the Water Street Sewer), which was part of Phase 1A. The city will implement the remaining portion of the gravity sewer alternative (the proposed Noblitt Park Sewer) as part of the proposed Phase 1B. The city has indicated that completion of the proposed Noblitt Park Sewer will convert the Noblitt Park CSO to a storm water outfall into the Flatrock River; the Flatrock River, from S.R. 9 to its junction with the East Fork White River, is listed as an Outstanding River by the Indiana Natural Resources Commission.

### **East Side Sewer**

No-Action Alternative: The East Side Sewer is necessary to alleviate bottle necks in the sewer system and to provide capacity for this fast-growing area. Therefore, the no-action alternative was rejected.

Alternative routes were considered, but only within a limited area. Because of the need to connect with existing facilities, route location was limited to the area between Clifty Creek, Taylor Road and 25<sup>th</sup> Street. This route resulted in the shallowest sewer.

## **VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES**

### **A. Direct Impacts of Construction and Operation**

**Archaeological Resources:** The proposed East Side Sewer project will affect land which has not been significantly disturbed by construction activity. Archaeological reconnaissance level surveys and more intensive surveys of the project area have been conducted. The project will not affect archaeological artifacts, etc. See Section VII.C for comments from the Indiana Department of Natural Resources Division of Historic Preservation and Archaeology. The Noblitt Park Sewer will not affect land which has the potential to contain archaeological materials.

**Structural Resources:** The two proposed projects will not affect historic buildings or sites.

**Plants and Animals:** The project will not affect endangered species, although tree removal will be necessary in both the Noblitt Park Sewer project and the East Side Sewer project. See figures 1 and 2 for areas of tree removal.

**Surface Waters:** The two proposed projects will not require stream crossings. The project will not affect Exceptional Use Streams or Natural, Scenic and Recreational Rivers and Streams.

**100-Year Floodplain:** The projects are generally in the 100-year floodplain. However, the only structure to be sited above ground level is the new pump station in the East Side Sewer project. That pump station will displace approximately 230 cubic yards of floodwater.

**Wetlands:** The proposed East Side Sewer project will install an 18-inch sewer next to Taylor Road immediately south of South Drive; there is a palustrine emergent wetland on either side of Taylor Road through which the line may pass for approximately 200 feet. The Noblitt Park sewer project will not negatively affect wetlands.

**Groundwater:** The project will not negatively affect a sole source aquifer or other groundwater resources.

**Prime Farmland:** The proposed projects will not directly convert prime farmland.

**Air Quality:** Air quality will be temporarily impacted by construction activities, including vehicle exhaust and dust.

**Open Space and Recreational Opportunities:** Construction and operation of the proposed projects will neither create nor destroy open space and recreational opportunities.

The projects will not affect National Natural Landmarks.

## **B. Indirect Impacts**

Indirect impacts are those impacts made possible by implementation of infrastructure projects; typically, these impacts are related to growth and development made possible by the projects. Phase 1A and Phase 1B proposed projects will indirectly affect approximately 232 acres of prime farmland. Columbus' Preliminary Engineering Report (PER) states: *"The City of Columbus, through the authority of its Council, planning commission, or other means will ensure that future development, as well as future collection system, storage, or treatment works projects connecting to publicly-funded facilities, will not adversely impact wetlands, archaeological/ historical/structural resources, or other sensitive environmental resources. The city will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities."*

## **C. Comments from Environmental Review Authorities**

The Natural Resources Conservation Service (NRCS) commented on both Phase 1A and Phase 1B projects, and in correspondence dated May 31, 2006, stated: *"The project to make improvements to the wastewater system ... will cause a conversion of prime farmland."* The NRCS correspondence indicates that approximately 232 acres of prime and unique farmland may be indirectly converted.

The U.S. Fish and Wildlife Service, in correspondence dated April 3, 2007, addressed not only the projects described in this document, but also the Phase 1A projects currently under construction and the future South Side Pump Station and Force Mains projects; references to stream crossings and impacts to White River, Haw Creek and Opossum Creek refer to these other projects. The correspondence stated:

### General Recommendations For Streams

1. *Maintain a vegetated buffer between construction and streams, except at stream crossings. The buffer should be at least 25 feet wide, but preferably up to 100 feet wide if possible. Where maintenance of an adequate buffer is not possible because of other physical constraints, locate the sewer line to minimize clearing of woody riparian vegetation and destabilization of streams banks.*
2. *Minimize erosion and cover or contain soil piles to prevent runoff to streams during construction. Stabilize disturbed stream banks as quickly as possible after construction is completed. Revegetate with native plant species in areas that are currently dominated by natural vegetation.*

3. *For crossings of ephemeral streams and small, low quality intermittent streams, excavate the crossing when the stream is dry whenever possible.*
4. *For perennial and blue line intermittent stream crossings, attach the pipeline to existing bridges or use directional drilling, rather than using an excavated crossing.*
5. *When excavated crossings of perennial streams and blue line intermittent streams are unavoidable, avoid mussel beds and areas of high-quality aquatic habitats, such as gravel/rock riffles, and avoid disturbance within the stream channel during the fish spawning season (April 1 – June 30).*

#### Site-Specific Recommendations

1. *For the Noblitt Park project avoid the riparian forested area along the White River by shifting the sewer alignment further west.*
2. *At the Haw Creek Crossing and the downstream Opossum Creek crossings use directional boring and avoid disturbance or riparian forest.*
3. *At the White River Crossing locate the sewer line to avoid disturbance of riparian forest for bore pits, staging areas and other disturbance.*
4. *At the east wetland crossing install the sewer line as close as possible to the existing road.*
5. *Restore emergent wetlands to original grade and revegetate with native plants suitable for wetlands.*
6. *Revegetate all riparian areas along the White River and Haw Creek with native plants.*

#### Endangered Species

*The proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and federally threatened bald eagle (*Haliaeetus leucocephalus*). The project area contains suitable habitat for both species. The nearest eagle nest is several miles upstream from the project area, however to our knowledge the area has not been surveyed for Indiana bats. If tree clearing is avoided along the White River, Haw Creek and the downstream crossing of Opossum Creek during the period of April 15 through September 15, we concur that the proposed project is not likely to adversely affect these listed species.*

The Indiana Department of Natural Resources (IDNR) Environmental Unit, in correspondence dated May 3, 2007, stated:

*This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for utility exemption under Administrative Rules 312 IAC 10-5-4.... Please include a copy of this letter with the permit application (if required).*

*The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.*

*The Noblitt Park sewer segment will cause significant environmental harm due to the sewer line path that impacts riparian forested areas and a 7-acre forested tract located within the city. Large forested tracts are an unusual resource in urban environments and should be preserved as much as possible. The construction corridor should be reduced to an absolute minimum in areas where forested habitat impacts are likely. The east-west cut through the woods will increase the fragmentation of this habitat and increase access to the forest for nest predators such as domestic cats and raccoons as well as invasive plant species. The directional bore method is strongly recommended to avoid impacts to urban forest habitat. A bore depth of 48" lies below the root zone of most large diameter trees which will eliminate the need to remove trees and damage tree roots (see Tree City USA Bulletin #35, National Arbor Day Foundation, which can be accessed at: <http://www.arboday.org/programs/treecityUSA/bulletins/browse.cfm>).*

*The directional bore method should be used for crossing all perennial streams wherever possible. Intermittent streams can be crossed by open-trench with minimal impacts in the summer when they have run dry or are at their lowest annual water levels.*

*Bank stabilization for streams crossed by the open-trench method should use as little riprap as possible. The use of riprap from the ordinary high water mark (ohwm) down to the stream bed is acceptable for stream bank toe protection. However, above the ohwm a method of bioengineered bank stabilization should be used such as turf reinforcement mats or heavy duty erosion control blankets (biodegradable) combined with the use of live native vegetation. Turf reinforcement mats are compatible with native vegetation (including woody vegetation) so the disturbed bank can be restored to a natural appearance and function after the work is completed. The Natural Resources Conservation Service (NRCS) publication "Streambank and Shoreline Protection" at the following link contains descriptions of several bioengineered bank stabilization methods: <http://www.info.usda.gov/CED/ftp/CED/EFH-Ch16.pdf>.*

*Fish, wildlife, and botanical resource losses can be expected to occur as a result of this project. These losses can be minimized through implementation of the recommendations above and the following measures.*

*Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.*

*Minimize and contain within the project limits inchannel disturbance and the clearing trees and brush.*

*Do not work in the waterway from April 1 through June 30 without prior written approval of the Division of Fish and Wildlife.*

*Do not cut any trees suitable for Indiana bat roosting (greater than 14 inches in diameter, living or dead, with loose hanging bark) from April 15 through September 15. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.*

*Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.*

*Post "Do Not Mow or Spray" signs along the right-of-way.*

*Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.*

*Plant live trees, at least 2 inches in diameter-at-breast height, for each tree which is removed that is ten inches or greater in diameter-at-breast height.*

*Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas.*

*A mitigation plan is recommended when a project's impacts to non-wetland forest within urban floodways will require more than 5 trees to be removed that are 10 inches or greater in diameter-at-breast height.*

*Impacts to non-wetland forest over 1 acre should be mitigated at a minimum 2:1 ratio.*

The IDNR Division of Historic Preservation and Archaeology (DHPA), in correspondence dated June 25, 2007, stated: *Based on our analysis, it has been determined that no historic properties will be altered, demolished, or removed by the proposed project.* The East Side Sewer project area, however, was found to contain a few archaeological sites. Those areas were further investigated in the field. Commenting on the report documenting those investigations, the DHPA stated in correspondence dated January 24, 2008: *In terms of archaeological resources, we concur with the conclusions and recommendations of the revised archaeological report that the portions of site 12B335 within the proposed project area do not appear to contain significant intact archaeological deposits and that sites 12B1448 and 12B1449 do not appear eligible for inclusion in the National Register of Historic Places. Therefore, no further archaeological investigations are necessary for the eastern section of this project with the following conditions:*

- 1. The portion of site 12B335 outside of the project area must be avoided by all project activities or must be subjected to further archaeological investigations.*
- 2. This review only applies to the eastern section of this project. It is our understanding that the southern section of this project [i.e., the South Side Pump Station and Force Mains] is still under review and that further archaeological investigations are still necessary.*
- 3. As stated in previous letters dated June 25 and August 3, 2007, sites 12B1334, 12B1411, 12B1418, 12B1422, and 12B1435 must be avoided by all project activities.*

*If any archaeological artifacts, features, or human remains are uncovered during construction, state law (Indiana Code 14-21-1-27 & 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please contact (317) 232-1646.*

## **VIII. MITIGATION MEASURES**

The city's PER states: *Short-term erosion and siltation impacts will be controlled and monitored by the contractor during the installation and construction of the sewer mains and corresponding structures.*

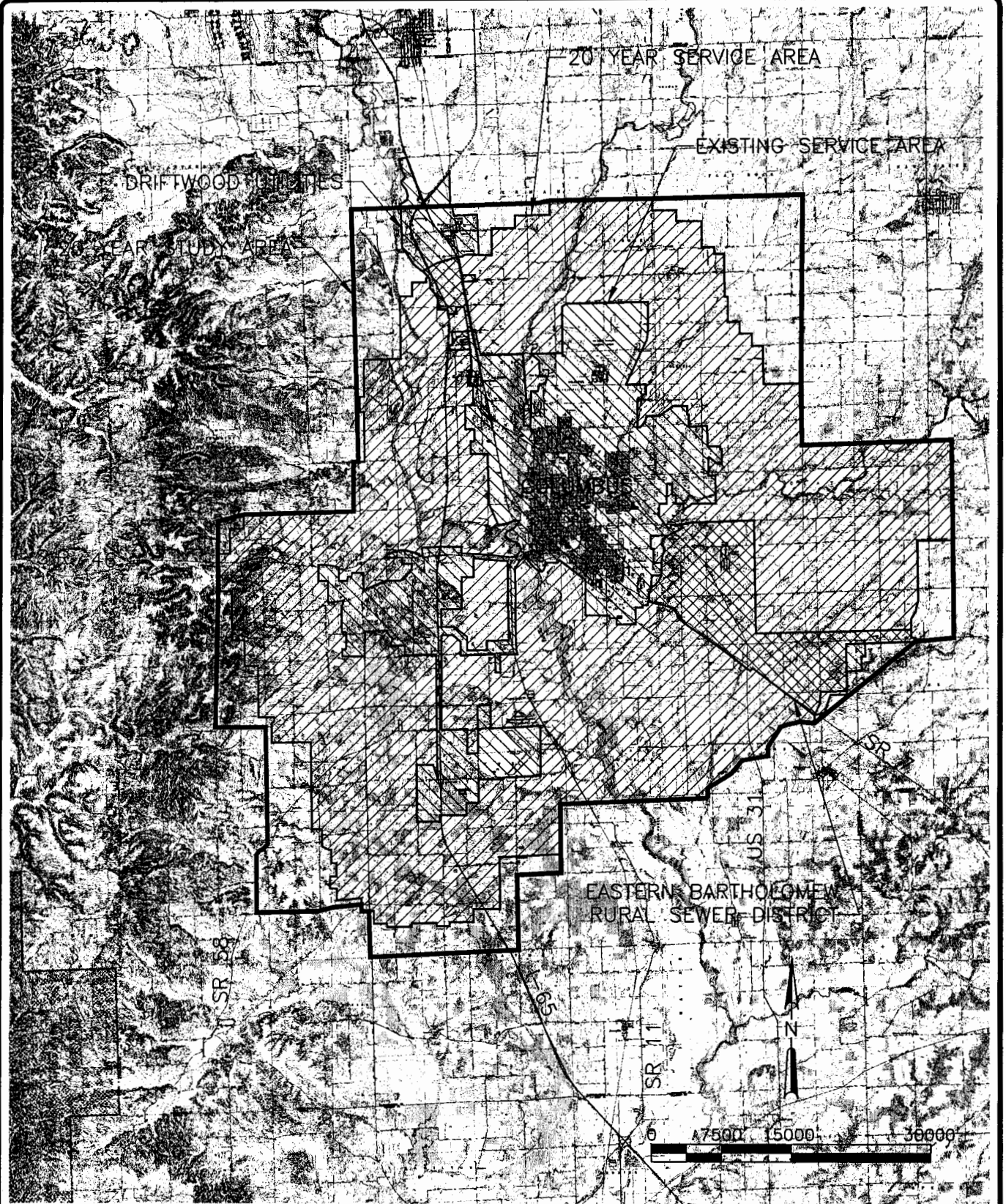
*Efforts will be used to mitigate the effects of increased dust during construction.*

*Any mitigation measures to lessen wetlands impact cited in the comment letter about the project from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented if feasibly possible.*

## **IX. PUBLIC PARTICIPATION**

A properly noticed public hearing was held at 5:00 PM on April 12, 2006 at the City Council Chambers to discuss the PER and to solicit public comments. The city received no written comments in the 10-day period following the hearing.

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## EXISTING & 20 YEAR SERVICE AREAS

**PRELIMINARY ENGINEERING REPORT  
COLUMBUS CITY UTILITIES  
COLUMBUS, INDIANA**



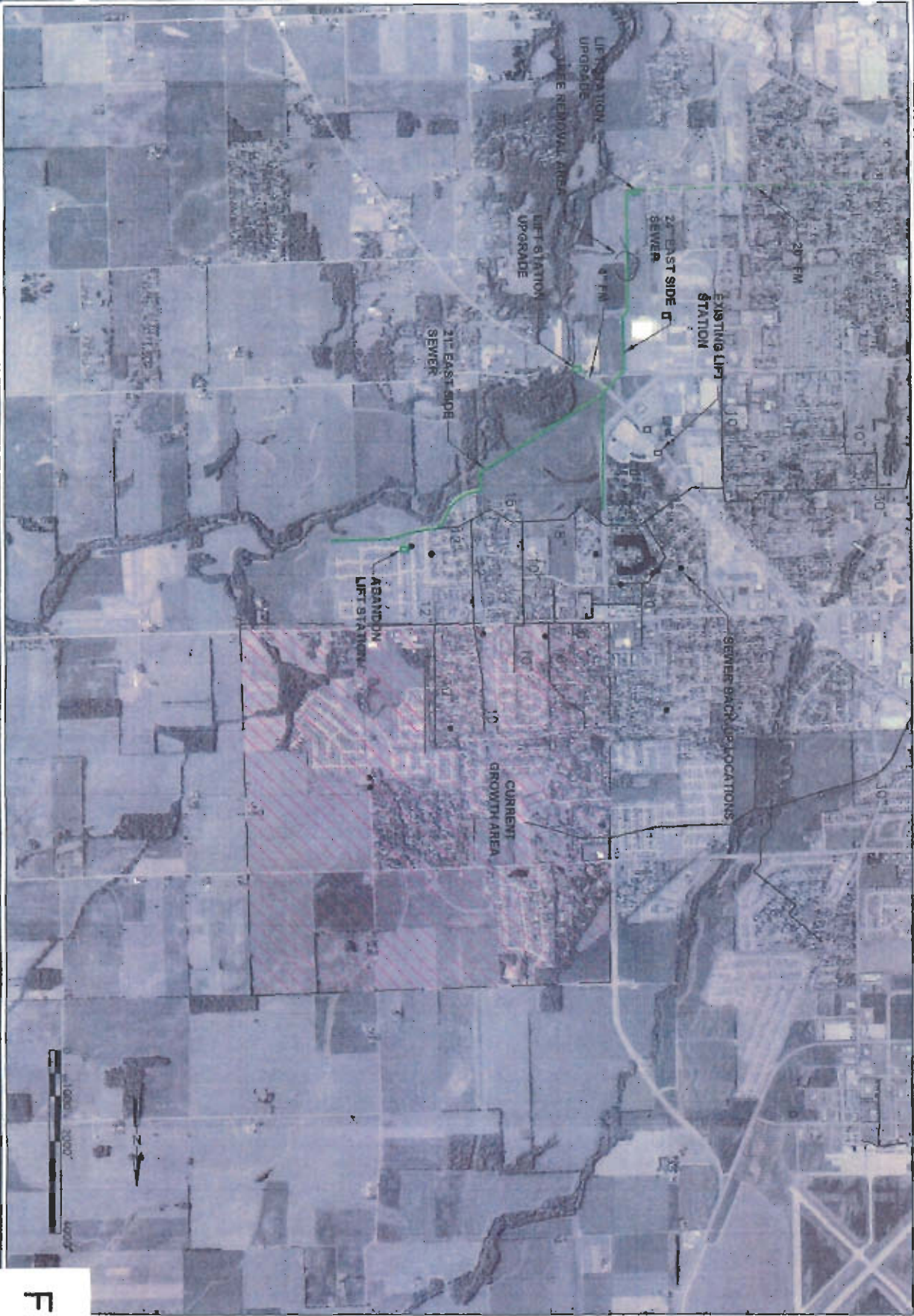
**FIGURE 1**



**FIGURE 2**

**SITE LOCATION  
NOBLITT PARK SEWER**

**COLUMBUS PER  
COLUMBUS CITY UTILITIES  
COLUMBUS, INDIANA**



**SITE LOCATION  
EASTSIDE SEWER**

**COLUMBUS PER  
COLUMBUS CITY UTILITIES  
COLUMBUS, INDIANA**

**FIGURE 3**